

**Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services**

STATEMENT OF BASIS

**CenterPoint Energy - Mississippi River Transmission Corp
Unionville Storage Compressor Station
Dubach, Lincoln Parish, Louisiana
Agency Interest Number: 13145
Activity Number: PER20070001
Proposed Permit Number: 1720-00014-V3**

I. APPLICANT

Company:

CenterPoint Energy – Mississippi River Transmission Corporation
Post Office Box 21734
Shreveport, Louisiana 71151-1734

Facility:

Unionville Storage Compressor Station
452 Golf Course Road
Dubach, Lincoln Parish, Louisiana
Approximate UTM coordinates are 537.40 kilometers East and 3615.70 kilometers North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS

Unionville Storage Compressor Station receives natural gas from nearby pipelines and injects it into underground reservoirs. When needed, gas is withdrawn from storage and transported offsite via pipelines. Four process heaters are used to prevent gas from freezing, and four glycol dehydrations units are employed to remove water in the gas stream. Emissions from each still column vent are controlled through the use of a thermal oxidizer. Approximately 30 billion cubic feet of natural gas are handled annually.

The primary emission sources at the site are three Dresser Clark TCV-16 compressor engines (1-69, 2-69, and 1-74) and one Cooper Bessemer GMVH-10C2 compressor engine (1-95). These units serve as both the mainline compression and storage injection/withdrawal equipment. The 655 hp Caterpillar Generator (1-88) is equipped with a catalytic converter.

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Unionville Storage Compressor Station is a designated Part 70 source. Several Part 70 permits have been issued to the operating units within the natural gas storage and compressor station. These include:

Permit No.	Unit or Source	Date Issued
1720-00014-V0	Unionville Storage Compressor Station	December 23, 1997
2576-V0	Unionville Storage Compressor Station	November 5, 1998
1720-00014-V1	Unionville Storage Compressor Station	December 20, 2000
1720-00014-V2	Unionville Storage Compressor Station	February 26, 2007 (Admin. Amended)

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application was submitted on July 5, 2007, requesting a Part 70 operating permit modification for the Unionville Storage Compressor Station. Additional information dated August 24, 2007, and August 30, 2007, was also submitted.

Project

MRT proposes to make the following modifications to the Unionville Storage Compressor Station:

- One Caterpillar G3516TALE compressor engine rated at 1,340 hp and equipped with an oxidation catalyst (3-07) is being added. This engine will be subject to the standards of 40 CFR 63 Subpart ZZZZ.
- One glycol dehydrator (Dehydrator No. 5) rated at 20 MM scf/day and equipped with a 1.5 MM BTU/hr reboiler (4-07A) is being added. Emissions from this dehydrator will be controlled by routing still vent off gases (4-07B) through a condenser and then through the existing thermal oxidizer (1-02). This dehydrator will be subject to the requirements of 40 CFR 63 Subpart HHH.
- Emissions from the thermal oxidizer are being updated to reflect the addition of the glycol dehydrator and to utilize more appropriate AP-42 emission factors.
- The existing generator engine (1-88) is being replaced with a 1,340 hp rated Caterpillar G3516TALE generator engine (1-07) which will only be used for the emergency generation of electricity.

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- The reboiler (1-90-A) on Dehydrator No. 4 is being replaced with an identical unit (2-07A).
- The LAC 33:III2107.D.1 recordkeeping requirements for the loading operations (3-95 and 2-98) are being removed as these requirements were erroneously incorporated since the facility has never had and does not currently have the capacity to load more than 20,000 gallons per day averaged over any 30-day period.
- A 400 bbl-wastewater storage tank is being added as an insignificant activity.

Proposed Permit

Permit 1720-00014-V3 will be the modification of Part 70 operating permit 1720-00014-V2 for the Unionville Storage Compressor Station.

Permitted Air Emissions

Estimated emissions in tons per year are as follows:

<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
PM ₁₀	1.30	1.96	+ 0.66
SO ₂	0.68	0.72	+ 0.04
NO _x	947.56	968.38	+ 20.82
CO	350.68	334.16	- 16.52
VOC *	124.93	129.02	+ 4.09

VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
Acetaldehyde	1.71	2.04	+ 0.33
Acrolein	-	0.243	+ 0.243
Benzene	4.23	5.233	+ 1.003
Ethyl benzene	0.51	0.519	+ 0.009
Formaldehyde	16.62	17.22	+ 0.60
Methanol	1.12	1.296	+ 0.176
n-Hexane	1.75	1.889	+ 0.139
Toluene	1.37	1.488	+ 0.118

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VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
Xylenes	2.73	2.717	- 0.013
Total	30.04	32.645	+ 2.605

Other VOC (TPY): 96.375

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

Applicability and Exemptions of Selected Subject Items

ID No.	Requirement	Note
UNF 1	Comprehensive Toxic Air Pollution Program [LAC 33:III.5105.B.3.a]	EXEMPT. Emissions from the combustion of Group 1 virgin fossil fuels are exempt from the requirements of Subchapter A.
	Chemical Accident Prevention Provisions [40 CFR 68]	DOES NOT APPLY. The station contains no sources which produce, handle, process, or store substances listed in 40 CFR 68.130 in quantities greater than the listed threshold.
EQT 1, EQT 2, EQT 3, EQT4, EQT 30	Waste Gas Disposal [LAC 33:III.2115]	DOES NOT APPLY. This Section does not apply to waste gas streams that must meet control requirements of LAC 33:III.2116.

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ID No.	Requirement	Note
EQT 5	Compliance Assurance Monitoring [40 CFR 64.2(b)(i)]	EXEMPT. Thermal oxidizer complies with 40 CFR 63 Subpart HHH as a control device to the Glycol Dehydrators.
	Emission Standard for Sulfur Dioxide [LAC 33:III.1502.A.3]	DOES NOT APPLY. Thermal oxidizer does not emit or have the potential to emit greater than 5 tpy SO ₂ .
EQT 6, EQT 7, EQT 8, EQT 25	Emission Standard for Sulfur Dioxide [LAC 33:III.1502.A.3]	DOES NOT APPLY. Compressor engines do not emit or have the potential to emit greater than 5 tpy SO ₂ .
	Comprehensive Toxic Air Pollution Program [LAC 33:III.5105.B.3.a]	EXEMPT. Emissions from the combustion of Group 1 virgin fossil fuels are exempt from the requirements of Subchapter A.
	NESHAP Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR 63.590(b)(3)]	EXEMPT. Lean burn engines do not have to meet the requirements of NESHAP Subpart ZZZZ.
EQT 9, EQT 10, EQT 12, EQT 13, EQT 14, EQT 15, EQT 16, EQT 27, EQT 29	Emission Standard for Sulfur Dioxide [LAC 33:III.1502.A.3]	DOES NOT APPLY. Reboiler burners and process heaters do not emit or have the potential to emit greater than 5 tpy SO ₂ .
	NESHAP Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR 63.7506(c)(3)]	EXEMPT. The reboiler burners and process heaters have a heat rate less than 10 MM BTU/hr.

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ID No.	Requirement	Note
EQT 17, EQT 18	Volatile Organic Compounds -- Loading [LAC 33:III.2107.A.1.a]	DOES NOT APPLY. Loading throughput of VOCs is less than 20,000 gallons per day.
EQT 19, EQT 22, EQT 23	Storage of Volatile Compounds [LAC 33:III.2103.G.1]	DOES NOT APPLY. Storage tanks are located in an attainment area, used to store condensate, and have a storage capacity less than 420,000 gallons.
	NSPS Subpart Kb -- Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984. [40 CFR 60.110b]	DOES NOT APPLY. Storage tanks have a capacity less than 75 m ³ .
EQT 20	NSPS Subpart Kb -- Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984. [40 CFR 60.110b]	DOES NOT APPLY. Storage tanks have a capacity less than 75 m ³ .
EQT 21	Storage of Volatile Compounds [LAC 33:III.2103.A]	DOES NOT APPLY. Storage tanks contain VOCs with a maximum true vapor pressure less than 1.5 psia.
	NSPS Subpart Kb -- Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984. [40 CFR 60.110b]	DOES NOT APPLY. Storage tanks have a capacity less than 75 m ³ .

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ID No.	Requirement	Note
EQT 26	Emission Standard for Sulfur Dioxide [LAC 33:III.1502.A.3]	DOES NOT APPLY. Reboiler burners and process heaters do not emit or have the potential to emit greater than 5 tpy SO ₂ .
	Comprehensive Toxic Air Pollution Program [LAC 33:III.5105.B.3.a]	EXEMPT. Emissions from the combustion of Group 1 virgin fossil fuels are exempt from the requirements of Subchapter A.

Prevention of Significant Deterioration/Nonattainment Review

Does not apply.

Streamlined Equipment Leak Monitoring Program

Does not apply.

MACT Requirements

This facility is a minor source of toxic air pollutants (TAPs) pursuant to LAC 33:III.Chapter 51. Formaldehyde, a Class I TAP, is emitted above the major source threshold level. However, the formaldehyde emissions which are from the combustion of Group 1 virgin fossil fuels are exempt by LAC 33:III.5105.B.3.a.

This facility is a major source of hazardous air pollutants (HAPs) and NESHAP 40 CFR 63 Subparts HHH and ZZZZ apply.

Air Quality Analysis

No dispersion modeling was performed.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

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Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

There is no permit shield.

VI. PERIODIC MONITORING

Facility-wide Monitoring requirements

All sources subject to NESHAP and required to implement Continuous Monitoring Systems (CMS) shall do so in accordance with 40 CFR 63.8.

Permittee shall monitor, if requested, for odor intensity and take and transport samples in a manner which minimizes alteration of the samples either by contamination or loss of material. Evaluate all samples as soon after collection as possible in accordance with the procedures set forth in LAC 33:III.2901.G

Non-NSPS and Non-NESHAP Compressor Engine Monitoring Requirements

Permittee shall demonstrate compliance with the emission limits of this permit by performing a stack test at Emission Points EQT 6, EQT 7, EQT 8, and EQT 25. Due within 180 days after initial startup (or restart-up after modification or in the event of an engine overhaul), or within 60 days after achieving normal production rate or end of the shakedown period, whichever is earliest. Test methods and procedures shall be in accordance with New Source Performance Standards, 40 CFR 60, Appendix A, Method 7E - Determination of Nitrogen Oxides Emissions from Stationary Sources and Method 10 - Determination of Carbon Monoxide Emissions from Stationary Sources. Use alternate stack test methods only with the prior approval of the Office of Environmental Assessment, Air Quality Assessment Division, Engineering Support. As required by LAC 33:III.913, provide necessary sampling ports in stacks or ducts and such other safe and proper sampling and testing facilities for proper determination of the emission limits

Permittee shall notify the Office of Environmental Assessment, Environmental Technology Division, Engineering Services, at least 30 days prior to the performance/emissions test to provide the opportunity to conduct a pretest meeting and observe the emission testing.

A report of the emissions test results shall be submitted within 60 days to the Office of Environmental Assessment, Environmental Technology Division, Engineering Services, after the performance/emissions test has been conducted.

In addition, in lieu of semiannual testing of compressor engines associated with Emission Points EQT 6, EQT 7, and EQT 8, the permittee shall continuously monitor these compressors using the approved Parametric Emission Monitoring

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System; whereas, the permittee shall monitor the compressor engine associated with Emission Point EQT 25 by conducting semiannual testing using a portable analyzer.

Also, permittee shall continuously monitor the operating hours of the compressor engine associated with Emission Point EQT 25.

NESHAP Thermal Oxidizer

Permittee shall monitor system, Emission Point EQT 5, according to 40 CFR 63.1283

NESHAP Compressor Engine Monitoring Requirements

Permittee shall monitor system, Emission Point EQT 28, according to 40 CFR 63.6625 and 63.6630

In addition, permittee shall demonstrate compliance with the emission limits of this permit by performing a stack test at Emission Points EQT 28. Due within 180 days after initial startup (or restart-up after modification, or in the event of an engine overhaul), or within 60 days after achieving normal production rate or end of the shakedown period, whichever is earliest. Test methods and procedures shall be in accordance with New Source Performance Standards, 40 CFR 60, Appendix A, Method 7E - Determination of Nitrogen Oxides Emissions Use alternate stack test methods only with the prior approval of the Office of Environmental Assessment, Environmental Technology Division, Engineering Services. As required by LAC 33:III.913, provide necessary sampling ports in stacks or ducts and such other safe and proper sampling and testing facilities for proper determination of the emission limits. NOx shall be monitored annually using a portable analyzer.

Permittee shall notify the Office of Environmental Assessment, Environmental Technology Division, Engineering Services, at least 30 days prior to the performance/emissions test to provide the opportunity to conduct a pretest meeting and observe the emission testing.

A report of the emissions test results shall be submitted within 60 days to the Office of Environmental Assessment, Environmental Technology Division, Engineering Services, after the performance/emissions test has been conducted.

Compliance Assurance Monitoring

Federal regulation 40 CFR 64 – Compliance Assurance Monitoring is not applicable to this facility.

VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and

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other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H₂S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C (“Prevention of Significant Deterioration of Air Quality”) and D (“Nonattainment New Source Review”).

Nitrogen Oxides (NO_x) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH₄), Ethane (C₂H₆), Carbon Disulfide (CS₂)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM₁₀ – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

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Sulfur Dioxide (SO₂) – An oxide of sulfur.

Sulfuric Acid (H₂SO₄) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.